

ON THE PROPER NAME OF THE GUNNELS OR BUTTER-FISHES.

By THEODORE GILL, LL. D.

THE FISHES known by the book name of gunnels, and more generally designated by fishermen and shoremen as butter-fishes, have been mostly accredited with the Latin names *Muraenoides*, *Centronotus* and *Gunnellus*. The object of the present communication is to show that not one of these names is eligible, and that all have to be superseded by a still older name, *Pholis*.

I.

In 1758, *Ophidion* was considered by Linnæus¹ as a genus of *Jugulares*, and diagnosed as follows:

131. OPHIDION. *Caput nudiusculum. Membr. branch. patula radis V. Corpus ensiforme. Pinna dorsalis anique unita caudæ. Pinnæ-ventrales radiis duobus: exteriore spinoso.*

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|-----------------|------------------------------------|
| barbatum. | 1. = <i>Ophidium barbatum</i> . |
| imberbe. | 2. = <i>Pholis gunnellus</i> . |
| macrophthalmum. | 3. = <i>Cepola macrophthalma</i> . |

The description was evidently based on the gunnel.

In 1766 *Ophidium* was placed by Linnæus² as a genus in the order *Apodes*, and redefined as follows:

148. OPHIDIUM. *Caput nudiusculum. Dentes maxillis, palato, faucibus. Membr. branch. radiis VII, patula. Corpus ensiforme.*

- | | |
|-----------|----|
| barbatum. | 1. |
| imberbe. | 2. |

The description is more applicable to *Ophidium* than to the gunnel, if we take cognizance of the fact that Linnæus considered the chin appendages as barbels ("cirris quatuor") and not anomalous ventrals. Inasmuch as (1) the *barbatum* was the first species of the genus in both cases, (2) the ancient name referred to it, (3) Linnæus himself considered it as the type of the genus, notwithstanding his diagnosis, and (4) the name *Ophidium* has been used universally for it, it seems best to retain the name with the usual acceptation.

¹ *Systema Naturæ*, ed. x, I, p. 259.

² *Systema Naturæ*, ed. xii, I, p. 431.

We are thus simply following out the principle of subordinating the description to usage and restriction by elimination to a natural genus. As this usage will not entail change it will doubtless be generally acceptable. *Ophidion* and *Ophidium* can not be used for different genera, the latter being simply an improved form of the earlier name. Some if not most of the American zoologists will probably prefer the earlier form, *Ophidion*.¹ I am, however, disposed under the circumstances to accept the later name, *Ophidium*.²

II.

In 1763 Gronovius, in his "Zoophylacium," established a new genus called *Pholis* (p. 78) for the *Blennius gunnellus*, and this was the only species mentioned, though he evidently had others in mind.³ The most distinct generic characters were the extent and structure of the dorsal fin.⁴

The genus of Gronovius, in the opinions of many, at least, is inadmissible, as that author had not yet become a binomialist. The single species of *Pholis*, for example, was named "Pholis maculis annulatis ad pinnam dorsalem; pinnis ventralibus obsoletis." Nevertheless a few would admit his genera. In the special case under consideration, fortunately, there need be no conflict, as the genus *Pholis* was soon reenforced by a binomialist.

Scopoli, in 1777,⁵ introduced the genus under his "Gens III, Auo medio," and "Divisio II, Thoraciei," in the following terms:

* 288. PHOLIS GRONOV. Dorsum infra medium pinnatum. Pinnæ ventrales nullæ, harumque loco ramenta pectoralia. Hiscenotis, ut & ani situ differt a Blennio.

The genus was thus reenforced, and the type is of course the only species mentioned by Gronovius—*Pholis gunnellus* = *Blennius gunnellus*, Linnæus.

It is not evident what Gronovius and Scopoli meant by the statement that the dorsal commenced at the middle of the length ("a dorso medio"), as the figure published by Gronovius correctly represents the dorsal commencing near the nape. There can, nevertheless, be no doubt that *Pholis* was based on the common gunnel, and that being the first name (after *Ophidion*) it should be adopted for the genus.

Subsequent names do not require much consideration.

¹The *Ophidion imberbe* is conspecific with the *Blennius gunnellus* described by Linnæus on a previous page (p. 257) of the same volume. The ventrals of *B. gunnellus* had the same formula as those of *O. imberbe* ("V. 2").

²The *O. macrophthalma* of the tenth edition was transferred to the new genus *Cepola* and named *C. rubescens* in the twelfth (p. 445). The proper name of that species, therefore, is *Cepola macrophthalma*.

³*Pinnæ* v. vel. VII. . . . *Ventrales* in quibusdam nullæ, nisi Ramenta obtusa in pectore sub pectoralibus præ pinnis habentur, in aliis vero sunt distinctissimæ. Gronovius in diagnose generis, p. 78.

⁴*Dorsalis* unica, a dorso medio usque ad caudam extensa, & ossiculis parum aculeatis suffulta.

⁵Int. Hist. Nat., p. 456, 1777.

III.

In 1800 Lacépède, failing to recognize the identity of *Blennius murænoides* with *B. gunnellus*, isolated the former as representative of a distinct genus, *Murænoides*, while he retained the latter in the genus *Blennius*.

IV.

In 1801 Bloch and Schneider established the genus *Centronotus*, with the following diagnosis: "Corpus gracile, pinna dorsi longitudinalis, tota aculeata."

V.

In 1815 Rafinesque proposed *Dactyleptus* as a substitute for *Murænoides*, because he did not like the latter.

VI.

In 1817 Cuvier renamed the same genus "*Les Gonnelles*," and later the latinized form *Gunnellus* was introduced by Fleming.

VII.

In 1839 Swainson substituted for *Gunnellus* the new name *Ophisomus*, because it was not derived from the Greek or Latin.¹

VIII.

The further history is summarized in the following synonymy:

Genus PHOLIS.

- < *Ophidion*, LINNÆUS, *Systema Naturæ*, ed. x, I, p. 259, 1758.
 < *Pholis*, GRONOW, *Zoophylacium*, p. 78, 1763. (Not binomial.)
 < *Ophidium*, LINNÆUS, *Systema Naturæ*, ed. XII, I, p. 431, 1766.
 < *Pholis*, SCOPOLI, *Int. Hist. Nat.*, p. 456, 1777.
 < *Murænoides*, LACÉPÈDE, *Hist. Nat. des Poissons*, II, p. 324, 1800.
 < *Centronotus*, BLOCH, *Systema Ichthyologie*, ed. Schneider, p. 165, 1801.
 (Not *Centronotus*, Lacépède, 1802.)
 < *Dactyleptus*, RAFINESQUE, *Anal. Nat.*, p. 82, 1815.
 = *Les Gonnelles* (*Murænoïdes*, LACÉPÈDE, *Centronotus*, SCHNEIDER) CUVIER, *Règne Anim.* [1re éd.], II, p. 252, 1817; 2e éd., II, p. 239, 1829, etc.; éd. illus., *Poiss.*, p. 174.
 < *Murænoides*, CLOQUET, *Dict. Sc. Nat.*, XIX, p. 202, 1821.
 < *Gunnellus*, FLEMING, *Hist. Brit. An.*, p. 207, 1828.
 < *Gunnellus*, CUVIER & VALENCIENNES, *Hist. Nat. des Poiss.*, XI, p. 418, 1836.
 < *Günnellus*, KRÖYER, *Naturhistorisk Tijdskrift*, I, p. 376, 1837.
 < *Ophisomus*, SWAINSON, *Nat. Hist. Fishes*, etc., II, pp. 183, 277, 1839.
 = *Gunnellus*, GIRARD, *Expl. and Surv. for R. R. Route to Pacific Oc.*, X, *Fishes*, p. 116, 1858.
 < *Centronotus*, GÜNTHER, *Cat. Fishes Brit. Mus.*, III, p. 285, 1861.
Blennius, sp., LINNÆUS, etc.

¹*Ophisomus* = "*Gunnellus* Auct. 'Nomina generica quæ ex Græca vel Latina lingua radicem non habent, rejicienda sunt.' Illiger, *Prod.* xvii."—Swainson, Vol. II, 277.

IX.

The substitution of the name *Pholis* entails a change of name for the including family, viz:

Family PHOLIDIDÆ.

Family Synonyms.

- = *Xiphidiontida*, GILL, Canadian Naturalist (2), II, pp. 247, 253.
 = *Xiphidiontida*, GILL, Arrangement Families Fishes, p. 4, 1872.
 < *Gunnelli*, FITZINGER, Sitzungsber. k. Akad. der Wissensch. (Wien), LXVII, 1. Abth., p. 41, 1873.
 < *Centrobleunioidei*, BLEEKER, Versl. Med. k. Akad. Wet. Amsterdam (2), VIII, p. 368, 1874.
 = *Pholidida*, GILL, Mem. Nat. Acad. Sci., VI, p. 136, 1892.
 = *Gobioides*, part, CUVIER ET VALENCIENNES.
 = *Blenniida*, part, GÜNTHER et al.

Subfamily Synonyms.

- < *Monactylia*, RAFINESQUE, Analyse de la Nature, p. 82, 1815.
 < *Gunnelliformes*, BLEEKER, Enum. Sp. Piscium Archipel. Indico, p. xxv, 1859.
 = *Ophisomina*, SWAINSON, Nat. Hist. and Class. Fishes, etc., II, p. 183, 1839.
 = *Centronotina*, GILL, Proc. Acad. Nat. Sci. Phila. 1859, p. 146 (1859).
 < *Gunnellini*, BLEEKER, Versl. Med. k. Akad. Wet. (2), VIII, p. 368, 1874.

X.

Under the name *Centronotus*, the third given after *Ophidion*, Dr. Günther, in 1861, included nine recognized and seven doubtful species, which belong to different genera, viz:

RECOGNIZED SPECIES.

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|----------------------------------|--------------------------------------|
| 1. <i>C. gunellus</i> | <i>Pholis gunnellus</i> . |
| 2. <i>C. fasciatus</i> | <i>Pholis fasciatus</i> . |
| 3. <i>C. nebulosus</i> | { <i>Pholis nebulosus</i> . |
| | { <i>Pholis ornatus</i> . |
| 4. <i>C. apus</i> | <i>Asternopteryx apus</i> . |
| 5. <i>C. gunelliformis</i> | <i>Asternopteryx gunelliformis</i> . |
| 6. <i>C. dolichogaster</i> | <i>Pholis dolichogaster</i> . |
| 7. <i>C. alectrolophus</i> | <i>Anoplarchus alectrolophus</i> . |
| 8. <i>C. crista galli</i> | <i>Anoplarchus atropurpureus</i> . |
| 9. <i>C. roseus</i> | <i>Gunnellops roseus</i> . |

DOUBTFUL SPECIES.

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|---|---------------------------------------|
| 1. <i>Ophidium mucronatum</i> M. | <i>Pholis gunnellus</i> . |
| 2. <i>Blennius tania</i> P. | <i>Pholis tania</i> . |
| 3. <i>Blennius ruberrimus</i> P. | <i>Pholis ruberrimus</i> . |
| 4. <i>Blennius polyactocephalus</i> | <i>Chirolophus polyactocephalus</i> . |
| 5. <i>Gunellus crassispina</i> S. | <i>Pholis crassispina</i> . |
| 6. <i>Gunellus macrocephalus</i> G. | <i>Pholis gunnellus</i> . |
| 7. <i>Clinus affinis</i> | <i>Stichæus affinis</i> . |

XI.

Under the name of *Gymnelis imberbis*, Dr. Günther¹ combined the following references, most of which relate to the *Pholis gunnellus*:

GYMNELIS IMBERBIS.

Gymnelis imberbis, KAUP, Ap. Fishes, p. 156; YARRELL, Brit. Fishes, ed. RICHARDSON, I, p. 79; GÜNTHER, Cat., IV, p. 325.

PHOLIS GUNNELLUS.

Ophidium imberbe, LINNÆUS; MONTAGUE, Weir. Mem., I, 95.—TURTON, Brit. Fauna, p. 88.—FLEMING, Brit. An., p. 201.—JENYNS, Man., p. 481.—YARRELL, Brit. Fishes, ed. 2, II, p. 412.

CARAPUS ACUS.

Ophidium imberbe, LACÉPÈDE, part. (Radial formula and caudal fin of *Pholis gunnellus*.)

ANGUILLA ANGUILLA.

Beardless *Ophidium*, PENNANT, Brit. Zool., III, 398, App., tab. 93.

The conglomerate nominal species retained by Dr. Günther under the name *Gymnelis imberbis* had obtained a place in British zoology since the early part of the century, and until I demonstrated in my article "On the affinities of several doubtful British fishes," published in 1864,² that it was simply the embodiment of blunders of one kind or another.

¹ Cat. Fish. Brit. Mus., IV, p. 325.

² Proc. Acad. Nat. Sci. Phila., 1864, pp. 199-208.